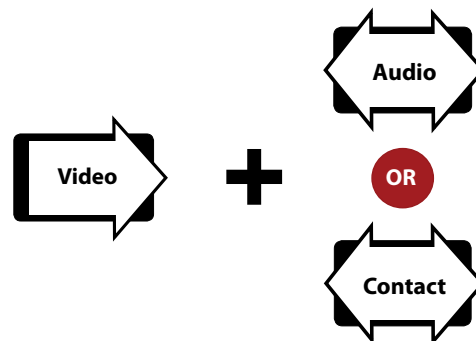# MERIDIAN
TECHNOLOGIES

Digitally Encoded 10-Bit 10 MHz Video with Bi-directional 24-Bit Audio and Bi-directional Contact Closure using the Small Form Pluggable (SFP) Optical Module

Video **+** Audio **OR** Contact

FEATURES:

- 10 Bit 10MHz Video Digital Encoding

- Real Time Video, Audio and Data Transmission

- Low Power Consumption

- High Efficiency, Isolated Power Supply

- Meets RS-250C Short Haul Transmission Specifications

- NTSC, PAL, SECAM Compatible

- Simplex or Duiplex 24-Bit Audio and Contacts

- Wide Optical Dynamic Range

- Multimode, Single-mode and CWDM fiber options via SFP modules

- Local LED Status Indicators to Monitor Critical System Parameters

- LC, SC Optical Connector (SFP dependent)

- 75 Ohm BNC Video Connector (Gold Center Pin)

- Meets EIA RS-170, RS-343A Formats

- Screw Terminal Connector for Audio and Contacts

DESCRIPTION:

Series NT/NR-SFP modules incorporate an all-digital encoding technology and can transmit following signals:

1.   Real-time, high quality, 10-bit 10 MHz video channel
2.   Bi-directional 24 bit audio channel
3.   Bi-directional contact closure channel

Please refer to the Ordering Information Table below for all possible channel combinations.

NTSC, PAL and SECAM video formats are all seamlessly supported.
The Contact Closure channel can be configured as either Normally Open (N.O.) or Normally Closed (N.C.).
Contact will return to N.O. state in case of a fiber break, but can be configured individually as per clients needs.
This product incorporates the industry standard Small Form Pluggable (SFP) optical device. This SFP gives you the option for either singlemode, multimode or CWDM wavelength selections by simply plugging in the appropriate SFP module.
This module belongs to new *DigiCool™* product family which features very Low Power Consumption an Isolated High Efficiency Power Supply.
Standard 5-pin terminal blocks are used for easy connection of the audio and contact channel interfaces.

CONFIGURATIONS:

The NTNR-1U1A/1C-SFP products are available in small stand-alone modules for easy mounting on walls, shelves and other flat surfaces.
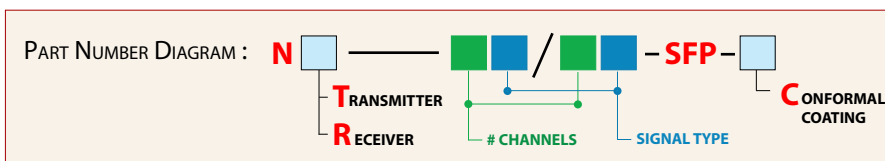
MARKETS:

- ✓ Intelligent transportation systems (ITS)
- ✓ Security and surveillance
- ✓ Access Control

SPECIFICATIONS:

Video
Format	NTSC, PAL, SECAM
Voltage/Impedance	1 Vp-p, 75 Ohm, 1.5 Vp-p max.
Bandwidth	5 Hz to 10 MHz @ -3 dB
Differential Gain	<0.6%
Differential Phase	<0.3º
SNR	>67 dB (weighted)*
Return Loss	>30 dB
Field Tilt	< 0.5%

Audio
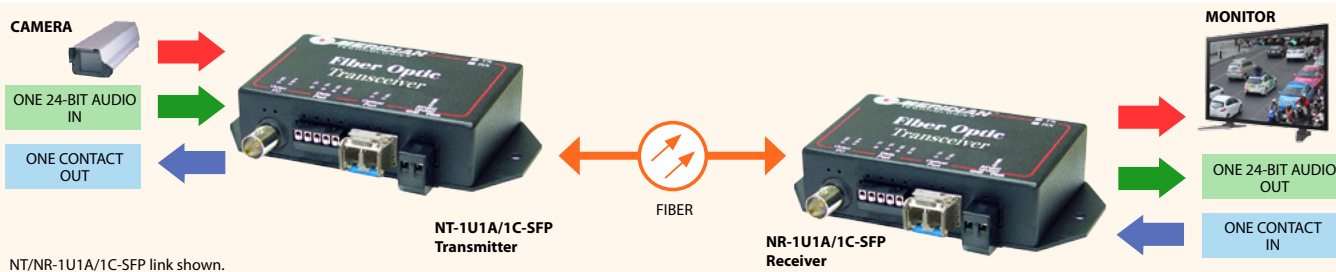|	
I/O Impedance	600 Ohm (Bal.), 47 KOhm (Un Bal.)
Frequency Response	10 Hz to 20 KHz
SNR	>90dB (Weighted)@ 1 KHz
In/Out Level	-8 to +8 dBm (4Vp-p max.) (+18 dBm available on request)
Total Harmonic Distortion	<0.01% @ 1KHz
Resolution	24 Bit

Contact
Contact Type	Normally Open (N.O.) or Normally closed (N.C.) - jumper selectable
Rate	10 Hz.(Per Channel)
Contact Rating	0.3A, 30V AC / DC
Contact Bounce Time	5 ms

Optical
Fiber Data Rate	350 Mb/s

Connectors
Video	75 Ohm BNC (Gold Center Pin)
Optical	LC, SC - SFP dependent
Power (module)	2-pin Screw Terminal
Data	5-pin Screw Terminal

Power
Input Power	12-24VAC / DC
Power Consumption	2.8 W

Indicators
1	Green	Power On
1	Bi-color	Tx Laser driver Normal / Error
1	Bi-color	Rx Optical signal Present / Error
1	Bi-color	Video Present / Overload
1	Green	Video Sync. Present
1	Green	Tx Audio Present
1	Green	Rx Data Present

Physical
Weight	90(W) x 60 (D) x 25 (H) mm (3.5x 2.3 x1 inch)
Power Consumption	213 gms (0.5 lb)

Environmental
Operating Temperature	-40ºC to +74ºC
Storage Temperature	-55ºC to +85ºC
Relative Humidity	0 to 95% Non-condensing

Quality
MTBF	>170,000 hours @ Ground Fix 35oC per MIL217F

PART NUMBER DIAGRAM :

N □ —— ■■ / ■■ – SFP – □

TRANSMITTER
RECEIVER
CHANNELS
SIGNAL TYPE
CONFORMAL COATING

Ordering Information

Part Numbers	Transmittion	Video Forward	Video Return	Audio Forward)	Audio Return	Contact Forward)	Contact Return
NT/NR-1U1A/1A-SFP	TRx	1		1	1		
NT/NR-1U1C/1C-SFP	TRx	1				1	1
NT/NR-1U1A/1C-SFP	TRx	1		1			1
NT/NR-1U1C/1A-SFP	TRx	1			1	1	
NT/NR-1U2A-SFP	Tx / Rx	1		2			
NT/NR-1U2C-SFP	Tx / Rx	1				2	
NT/NR-1U/2A-SFP	TRx	1			2		
NT/NR-1U/2C-SFP	TRx	1					2
NT/NR-1A/1A-SFP	TRx			1	1		
NT/NR-1C/1C-SFP	TRx					1	1
NT/NR-1A/1C-SFP	TRx			1			1
NT/NR-1C/1A-SFP	TRx				1	1	
NT/NR-2A-SFP	Tx / Rx			2			
NT/NR-2C-SFP	Tx / Rx					2	

CAMERA
ONE 24-BIT AUDIO IN
ONE CONTACT OUT

NT-1U1A/1C-SFP Transmitter

FIBER

NR-1U1A/1C-SFP Receiver

MONITOR
ONE 24-BIT AUDIO OUT
ONE CONTACT IN

NT/NR-1U1A/1C-SFP link shown.

SFP OPTIONS:

The SFP series products are available for both singlemode and multimode fiber applications and ether one or two fiber versions. Recommended optical speed for this product is 155 Mb/s.

For more specifications on a SFP optical devices refer to SFP data sheet at:

WWW.MERIDIAN-TECH.COM -> PRODUCTS -> ACCESSORIES -> SFP OPTICAL DEVICES

Common SFP modules
Part #	Fiber type	# of Fibers
MM1313F2	Multimode	2
MM1315F2 & MM1513F2	Multimode	1
SM1313F20	Single-mode	2
SM1315F20 & SM1315F20	Single-mode	1

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